

See m-702

Early Warning of Advances in Science and Technology

WHAT IS IT?

An attempt to sense the "PREVAILING WINDS" in Science and Technology

WHY?

Provide insight into developments that could change the power balance

- Real Changes ("Super-Weapons")
- Perceived changes in technological prowess (e.g. Sputnik)

Provide lead time for reacting to possible future military developments ✓

Assist in intelligence collection and analysis

- Collect important information while it is still unclassified ✓
- Provide lead time to reorient collection activities ✓
- Possible aid in understanding enigmas ✓

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INTERVIEWS BASED ON ONE KEY QUESTION ----

What are the emerging or rapidly moving areas
of Science or Technology potentially important
to National Security in the 80's?

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25X1

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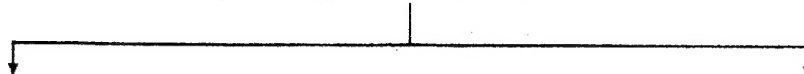
Analysis

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INTERVIEW NOTES



IDENTIFICATION OF SIGNIFICANT ITEMS



SCIENCE OR TECHNOLOGY

Life Sciences	}	58%
Computer Science		
Chemistry/Materials		
Physics/Astronomy		

High Energy Lasers	}	19%
Space Technology		
ASW Technology		

Misc.	}	23%
Negatives		

PROBLEM OR THREAT

Soviet-Specific	43%
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Worldwide	57%
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What Stands Out In Science & Technology?

- Genetic engineering
- Understanding the brain and the nature of thought
- Likelihood of interaction with intelligent extraterrestrial life
- Logic devices that will be cheap, smart, human-adaptive, and widely distributed
- Ability to synthesize arbitrarily complex organic materials tailored for specific biological or physical properties
- Understanding the strong interactions and the possibility of new energy and radiation sources
- High energy laser in space
- Construction of large structures in space
- Breakthrough in ASW that will seriously impact our undersea deterrent

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WHAT PROBLEMS/THREATS ARE FORESEEN?

- Worldwide general threats are seen to outweigh Soviet-specific high technology threats *not pri. economic = shortages = organize econ. affairs =*
- Worldwide general threats are highly economic-related while Soviet-specific threats are not seen as primarily economic in nature *economic-rel.*
- Some unusual threats that stand out are:
 - Soviet attacks on or from space [redacted] 25X1
 - Economic warfare - *energy - food = concern money -* 25X1
 - Chemical/Agricultural warfare [redacted]
 - Weather/Climate modification [redacted] 25X1
*long term changes - aerosol - conservation
req = will do it =*
- [redacted]
- Break-up of U.S. alliances is seen to put a premium on naval superiority but at the same time one wants to look for unconventional means of global transport *Af - new Horizons =*
- Some surprising gaps
 - Conventional land warfare -
 - Electronic warfare - *nothing - personally thought up,*
 - Vulnerability of computer-based systems to penetration

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